Training needs and learning objectives in Rehabilitation Practice for Family Medicine residents in Tunisia in 2024

Les besoins éducatifs et les objectifs de formation en rééducation chez les résidents en médecine de famille en Tunisie en 2024

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Abstract

Introduction: Family Medicine (FM) is undergoing global reform to address healthcare challenges and improve patient outcomes. Rehabilitation is a crucial component of primary care, yet FM training often lacks adequate emphasis on this area.
Aim: To determine the needs of FM residents in rehabilitation training and formulate corresponding training objectives.
Methods: A cross-sectional observational descriptive study was conducted among FM residents and practitioners in Sousse, Tunisia. The Delphi method was used to identify and prioritize training needs, subsequently translated into specific learning objectives. First authors identified 15 needs presented to FM residents of Faculty of medicine of Sousse. Then, the most chosen 10 needs were validated by experts in rehabilitation and preventive medicine. Finally based on the participants choices, experts formulated learning objectives in rehabilitation practice for FM residents.
Results: We included 391 residents of FM and general practitioners. Ten key training needs were identified among FM residents, focusing on common musculoskeletal and neurological conditions such as chronic low back pain, neck pain, and urinary incontinence. Corresponding objectives were developed encompassing cognitive, psychomotor, and affective domains.
Conclusion: This study provides a foundation for incorporating rehabilitation into FM training in Tunisia. Addressing identified needs and defining clear objectives leads to a systemic planning of training. Future research should focus on implementing these objectives and evaluating their impact on patient outcomes.

Key words: Curriculum- Family Medicine – Resident – Rehabilitation - Delphi Method- Tunisia.

Résumé

Introduction: La Médecine de Famille (MF) est en cours de réforme mondiale pour répondre aux défis de la santé. La réhabilitation est un élément crucial des soins primaires, mais la formation en MF accorde souvent peu d'importance à ce domaine.
Objectif: Déterminer les besoins des résidents en MF en matière de formation en réhabilitation et formuler des objectifs pédagogiques correspondants.
Méthodes: Une étude descriptive a été menée auprès des résidents en MF et médecins généralistes du centre de la Tunisie. La méthode Delphi a été utilisée pour identifier et hiérarchiser les besoins de formation. Les auteurs ont identifié 15 besoins présentés aux participants. Ensuite, les 10 besoins les plus choisis ont été validés par des experts en réhabilitation et en médecine préventive. Enfin, sur la base des choix des participants, les experts ont formulé des objectifs d'apprentissage en pratique de réhabilitation pour les résidents en MF.
Résultats: Nous avons inclus 391 apprenants en MF et médecins généralistes. Dix besoins clés de formation ont été identifiés, portant sur des pathologies musculosquelettiques et neurologiques courantes telles que la lombalgie chronique, les douleurs cervicales et l'incontinence urinaire. Des objectifs correspondants ont été élaborés couvrant les domaines cognitifs, psychomoteurs et affectifs.
Conclusion: La détermination des objectifs à partir des besoins éducatifs permet une planification systémique de l'apprentissage. De futures recherches devraient se concentrer sur la mise en œuvre de ces objectifs et l'évaluation de leur impact sur les résultats des patients.

Mots clés: Programme d'études – Méthode de Delphi – Médecine de famille – Réhabilitation- Tunisie.

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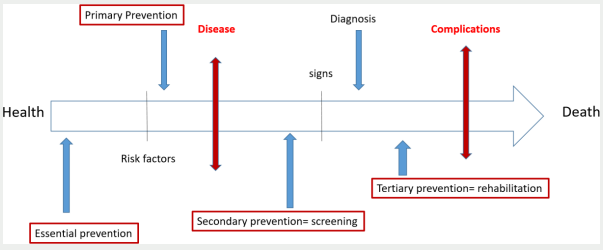
Introduction

Family Medicine (FM), also known as general practice or primary care, is undergoing global reform to address healthcare challenges and improve patient outcomes (1). These reforms emphasize integrated care, a patient-centered approach, preventive care, technology integration, enhanced training and education, revised policy and funding, health equity, and team-based care (2- 4). The goal is to strengthen FM's role in healthcare systems, leading to better health, improved patient experiences, and lower healthcare costs (5, 6). FM training should align with societal needs and address common conditions like musculoskeletal and neurological diseases (7). Medical schools prioritize curriculum and teaching method changes, with outcomes-based education a key approach to align training with societal demands (9-11). FM encompasses diverse clinical competencies and a FM practitioner must intervene in all four phases of the continuum of care, including rehabilitation (Box 1).

The World Health Organization (WHO) highlights the growing need for rehabilitation, affecting one in three people (12, 13). This need is exacerbated by a shortage of rehabilitation professionals, especially in low and middle income countries (LMIC) (14, 15). Thus, rehabilitation structure offer valuable training for FM residents. Despite this high need, FM curricula lack clear objectives for trainee. To optimize training, we will assess FM residents' needs for rehabilitation during internship to refine internship objectives (16). This study aims to determine the needs of FM of residents for rehabilitation and formulate their training objectives.



Box1. Place of rehabilitation in the continuum of care

Methods

As a part of promotion of medical studies, (18) students completing five years of medical studies can voluntarily choose FM as a specialty, with a three-year training period (3). Faculty of medicine of Tunisia are in advanced stage of accreditation and worldwide recognition (19, 20). A cross-sectional observational descriptive study was conducted from July 1, 2022, to January 15, 2024. All FM residents training at Fmso and General Practitionners (GP) in central Tunisia were included. FM practitioners were contacted through their email addresses available in the database of the regional medical council of the center of Tunisia. The Delphi Method was used to define FM resident learning objectives for rehabilitation. As a relevant evidence source in healthcare research (21), the Delphi Method involves expert consensus on a specific problem. Key features include moderator-expert and expert-expert interaction (21, 22). Similar to other educational initiatives, this study follows systemic planning (23), comprising sequential stages defining the learning cycle (21). A coordinator formulated 15 comprehensive needs based on CANMEDS model (24) and distributed them anonymously via email (Box 1).

1- Management of a patient with chronic low back pain
2- Management of patients with common neck pain
3- Front-line management of musculoskeletal disorders
4- Collaborating with a multidisciplinary team in the management of degenerative rheumatism
5- Managing non complicated inflammatory rheumatism
6- Collaborating with a multidisciplinary team in the management of spinal deformity in children
7- Collaborating with a multidisciplinary team in the management of a child with cerebral palsy
8- Collaborating with a multi-disciplinary team in the school integration of a child with a neurological or osteo-articular disability
9- Collaborating with a multidisciplinary team in the follow-up of a patient with a spinal cord injury, head trauma or vascular hemiplegia
10- Primary management of urinary incontinence
11- Follow-up of a patient with a neurological bladder
12- Collaborate with a multidisciplinary team in the management of decubitus complications in a palliative care patient
13- Therapeutic educating of patients with disability and their care givers
14- Managing pressure sores and other chronic wounds
15- Prescribe a physical activity adapted to the patient's clinical condition

Box 2. The 15 educational needs suggested to Family Medicine residents of Faculty of Medicine of Sousse and General Practitioners of the center of Tunisia

Then, identified needs were validated by rehabilitation and preventive medicine experts. A questionnaire was anonymously distributed to FM residents and GP via Google Forms. The action asked is to choose the 10 needs that the participant think it is important to achieve in rehabilitation structures. The "Top ten" frequently selected needs were presented to experts in a second round. Experts discussed and refined these needs, submitting recommendations to the coordinator. A third round circulated the revised list among experts for further refinement. A final consensus meeting defined the objectives, which were shared with participants (Study process is detailed in Figure 1). Data were entered into PSPP 2.0.1 statistical software for analysis using descriptive statistics, including frequencies for qualitative variables. Ethical approval was obtained from the Faculty of Medicine of Sousse's ethics committee N (262/2021). Participants were informed of the study's objectives, framework, and guaranteed questionnaire anonymity.

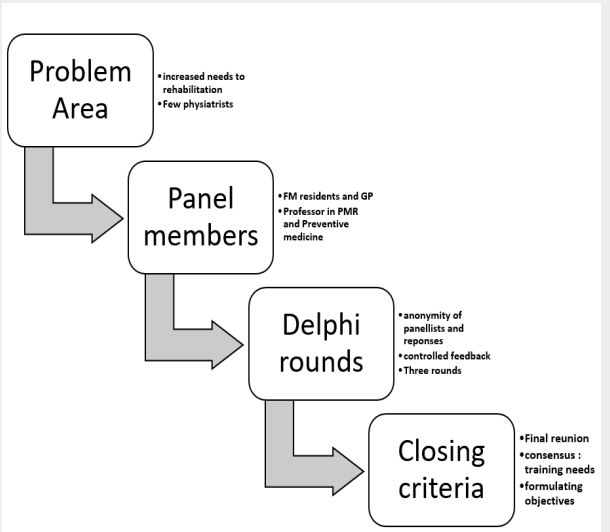


Figure 1. Study process of educational needs for rehabilitation practice in Family Medicine in 2024 in Tunisia.

Results

We received 391 responses, including 183 from FM residents among 305 (60% of total FM residents at Fmso) and 208 from GP among 1634 (12.7%) in the Center region and (Figure 2). For each need, we calculated the percentage of participant selection (Table 1). The ten most frequently chosen training needs focused on: chronic low back pain, common neck pain, musculoskeletal disorders, urinary incontinence, neurological bladder, decubitus complications in palliative care patients, decubitus complication prevention, therapeutic education for patients with restricted participation, pressure sores and other chronic wounds, and patient-adapted physical activity (Table 2). These ten needs informed the definition of objectives for FM residents in rehabilitation. Objectives encompassed all educational domains: cognitive (knowledge) such as "List the various complications of a neurological bladder, Name the prognostic factors of a neurological bladder"; psychomotor (skills) such as "Perform knee infiltration, diagnose complications"; and affective (attitudes) such as "Teach hygienic and dietary

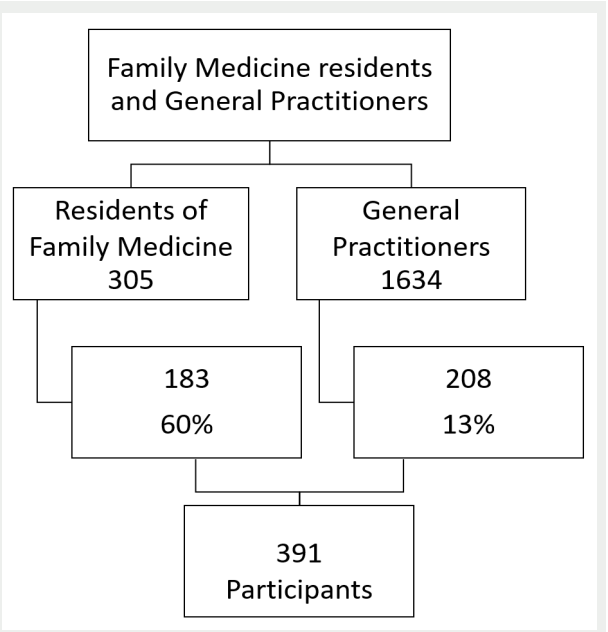


Figure 2. Flowchart of participants included in the study "Training needs and learning objectives in Rehabilitation Practice for Family Medicine residents in Tunisia in 2024"

Table 1. Frequencies of chosen educational needs for Rehabilitation Practice by Family Medicine residents and General Practitioners in 2024.

The educational need	n	%
1. Management of a patient with chronic low back pain	356	**91**
2. Primary management of urinary incontinence	336	**86**
3. Follow-up of a patient with a neurological bladder	316	**81**
4. Prescribe a physical activity adapted to the patient's clinical condition	305	**78**
5. Management of patients with common neck pain	294	**75**
6. Collaborating with a multidisciplinary team in the follow-up of a patient with a spinal cord injury,head trauma or vascular hemiplegia	289	**74**
7. Managing pressure sores and other chronic wounds	269	**69**
8. Front-line management of musculoskeletal disorders	265	**68**
9. Collaborating with a multidisciplinary team in the management of degenerative rheumatism	191	**67**
10. Collaborate with a multidisciplinary team in the management of decubitus complications in apalliative care patient	238	**61**
11. Therapeutic Educating of patients with disability and their care givers	203	**52**
12. Managing non complicated inflammatory rheumatism	261	**49**
13. Collaborating with a multi-disciplinary team in the school integration of a child with a neurological or osteo-articular disability	160	**41**
14. Collaborating with a multidisciplinary team in the management of spinal deformity in children	113	**29**
15. Collaborating with a multidisciplinary team in the management of a child with cerebral palsy	113	**29**

Discussion

Training FM focused on improving the health of a specific population (25- 27). In this study, authors determined FM needs through a questionnaire based on various need types, resulting in ten validated educational needs. Then, ten objectives for FM residents in rehabilitation practice in Tunisia, validated by experts using the Delphi Method. On one hand, the ten objectives cover prevalent pathologies: degenerative rheumatism, decubitus complications, and adapted physical activity. Literature supports the frequency of these pathologies in Tunisia. Indeed, for spinal and cervical pathologies, common low back pain is the most frequent condition requiring rehabilitation, according to the global burden of disease (13). On the other hand, many studies documented lack of competence in these pathologies among FM particularly regarding neurological bladder (28) or motor disorders (29). In addition, Complications like diabetic foot amputation can be prevented through appropriate patient education (30) and other studies have also highlighted unmet needs for decubitus complication patients, particularly in home care for GP (22, 23, 31).

To achieve those objectives, rehabilitation structures are crucial for FM training. They manage a diverse patient spectrum: inpatient cases requiring intensive rehabilitation, such as spinal cord injury and head trauma, and outpatient cases primarily involving musculoskeletal pathologies (32, 33). Moreover, the high prevalence of strokes and cardiovascular diseases in LMIC underscores the immense need for enhancing rehabilitation skills among health professionals (34, 35). Thus, equipping FM with rehabilitation skills can enhance rehabilitation accessibility. Globally, the WHO has trained FM as community-based rehabilitation workers in LMIC (15).

Table 2. Training objectives in Rehabilitation Practice for a Family Medicine residents in Tunisia in 2024.

Management of a patient with chronic common low-back pain
1- Diagnose common low-back pain.
2- Diagnose cauda equina syndrome complicating chronic common low-back pain.
3- Prescribe a medical treatment for a patient with chronic common low-back pain.
4- Prescribe a suitable rehabilitation protocol for a patient with chronic common low-back pain.
Managing a patient with common cervicalgia
1- Diagnose common cervicalgia.
2- Diagnose cervicarthrosic myelopathy complicating common cervicalgia.
3- Prescribe a medical treatment for a patient with chronic cervicalgia.
4- Prescribe an appropriate rehabilitation protocol for a patient with chronic cervicalgia common.
Front-line management of musculoskeletal disorders
1- Diagnose musculoskeletal disorders (epicondylitis, cuff tendinopathy, etc.).
2- Prescribe medical treatment for a patient with a musculoskeletal disorder.
4- Prescribe an appropriate rehabilitation protocol for a patient with musculoskeletal disorders.
5- Refer a patient with musculoskeletal disorders for specialized care.
Managing degenerative rheumatism
1- Diagnose degenerative rheumatism.
2- Prescribe appropriate medical treatment for gonarthrosis or coxarthrosis.
3- Perform knee infiltration.
4- Prescribe a rehabilitation protocol adapted to the gonarthrosis/ coxarthrosis stage.
5- Recognize, according to clinical examination and radiography, surgical indications of degenerative rheumatism
Primary management of urinary incontinence
1- Diagnose urinary incontinence through questioning and physical examination.
2- Master the neuroperineal examination.
3- Suspect a lower urinary tract disorder of neurological origin through clinical examination.
4- Collaborate with a specialist in neuro-urology to diagnose the etiology of a lower urinary tract disorder.
5- Prescribe first-line treatment for stress urinary incontinence.
6- Prescribe first-line treatment for overactive bladder.
7- Prescribe intermittent catheterization.
8- Teach hygienic and dietary rules to patients with bladder and bowel problems.
Follow-up of a neurological bladder
1- Prescribe additional tests to manage a urinary infection in a neurological bladder.
2- Diagnose a complication of a neurological bladder (urinary tract infection, bladder adenocarcinoma, renal failure, etc.).
3- Prescribe appropriate antibiotic therapy for urinary tract infections in neurological bladders.
4- Name the surgical indications for neurological bladders.
5- Identify late complications of neurological bladder: renal failure or bladder adenocarcinoma.
Collaborate with a multidisciplinary team in the management of decubitus complications in palliative care patients
1- Diagnose thrombophlebitis or pulmonary embolism in palliative care patients.
2- Prescribe suitable equipment for a palliative care patient
Managing pressure sores and other chronic wounds
1- Recognize the risk factors for chronic wounds.
2- Recognize preventive measures for chronic wounds.
3- Explain the risk of pressure sores and preventive measures to patients and their families.
4- Prescribe a suitable device for a patient at high risk of developing a chronic wound.
5- Refer a high-risk diabetic patient for podiatric care.
6- Prescribe an appropriate dressing for a chronic wound.
7- Diagnose a complication of a chronic wound (infection, fistula, osteitis, etc.).8- Refer a patient with a complicated chronic wound to a specialist.
Prescribe a physical activity adapted to the patient's clinical condition
1- Recognize clinically contre-indications for
2- Define maximum load and target heart rate for patients requiring adapted physical activity.
3- Prescribe physical exercise adapted to the patient's condition (type of exercise, pace, duration).
4- Refer high-risk cardiovascular patients to a cardiovascular rehabilitation specialist.
Collaborate with a multidisciplinary team in the follow-up of a patient with a spinal cord injury, traumatic brain injury or vascular hemiplegia
1- Diagnose neurogenic para osteo arthropathy, broncho pulmonary or urinary tract infection in patients with spinal cord injury,traumatic brain injury or vascular hemiplegia.
2- Recognize clinically a cognitive disorder in a patient with head injury or vascular hemiplegia.
3- Refer a patient with a spinal cord injury, head injury or vascular hemiplegia for specialized care.

This study's strength is that FM remains nascent in many developing countries, with undefined learning objectives and identity (36, 37). Simultaneously, FM faces crises in education, recruitment, and an increasing service (38). LMIC grapple with FM's novelty and undefined objectives (5, 29, 37, 39). Another strength lies in its Delphi methodology, offering anonymity, iterative consensus building, expert knowledge leverage, and flexibility across domains (21). However, the process is time-consuming and resource-intensive due to multiple feedback rounds. The systemic pedagogical approach aligns with effective learning principles (16). The main limitation of this study the monocentric approach that could be extended to the

four Faculty of Medicine of the country.

In front of this findings, FM training should include rehabilitation era and continuing medical education sessions for GP should incorporate these objectives. This approach can be extended to other disciplines for a standardized FM training methodology.

A learning cycle should always begin with a needs assessment, considering both perceived and demonstrated needs. Given FM's novelty, resident objectives are often undefined. This study initiates this process by assessing needs and formulating rehabilitation objectives. Aligning education with societal needs is crucial, necessitating ongoing satisfaction surveys and curriculum adaptation in response to evolving needs, knowledge, and higher education innovations.

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